

No. 626,303.

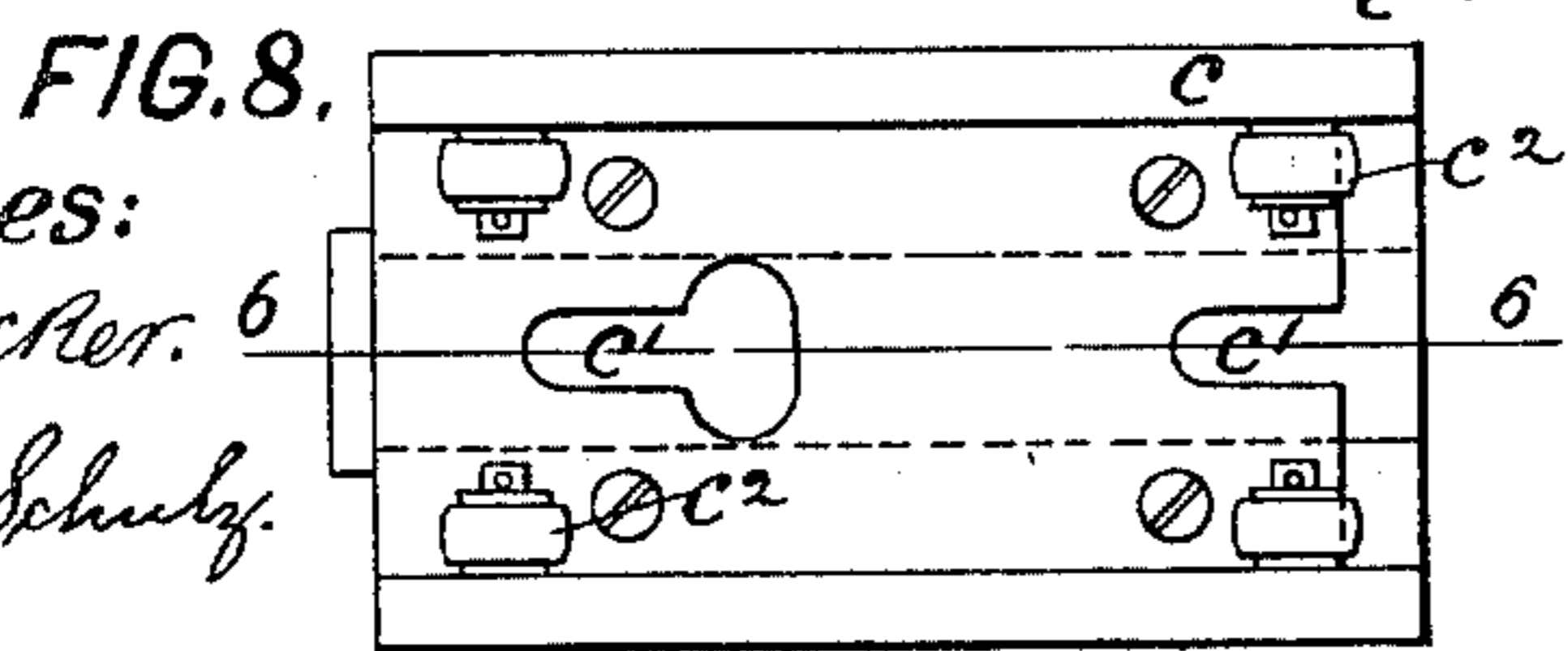
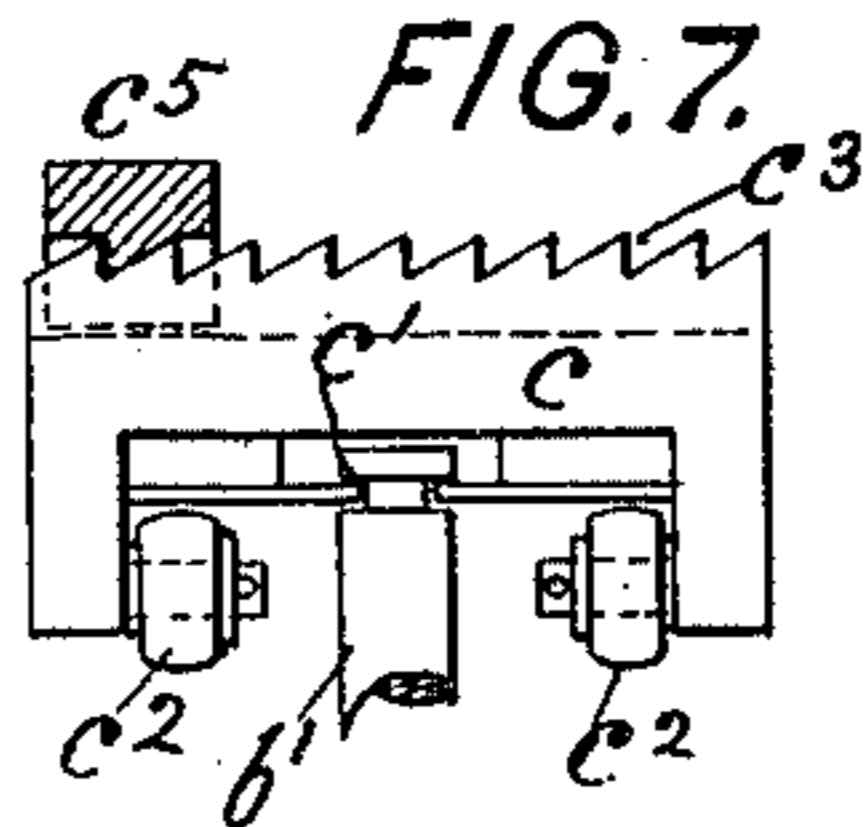
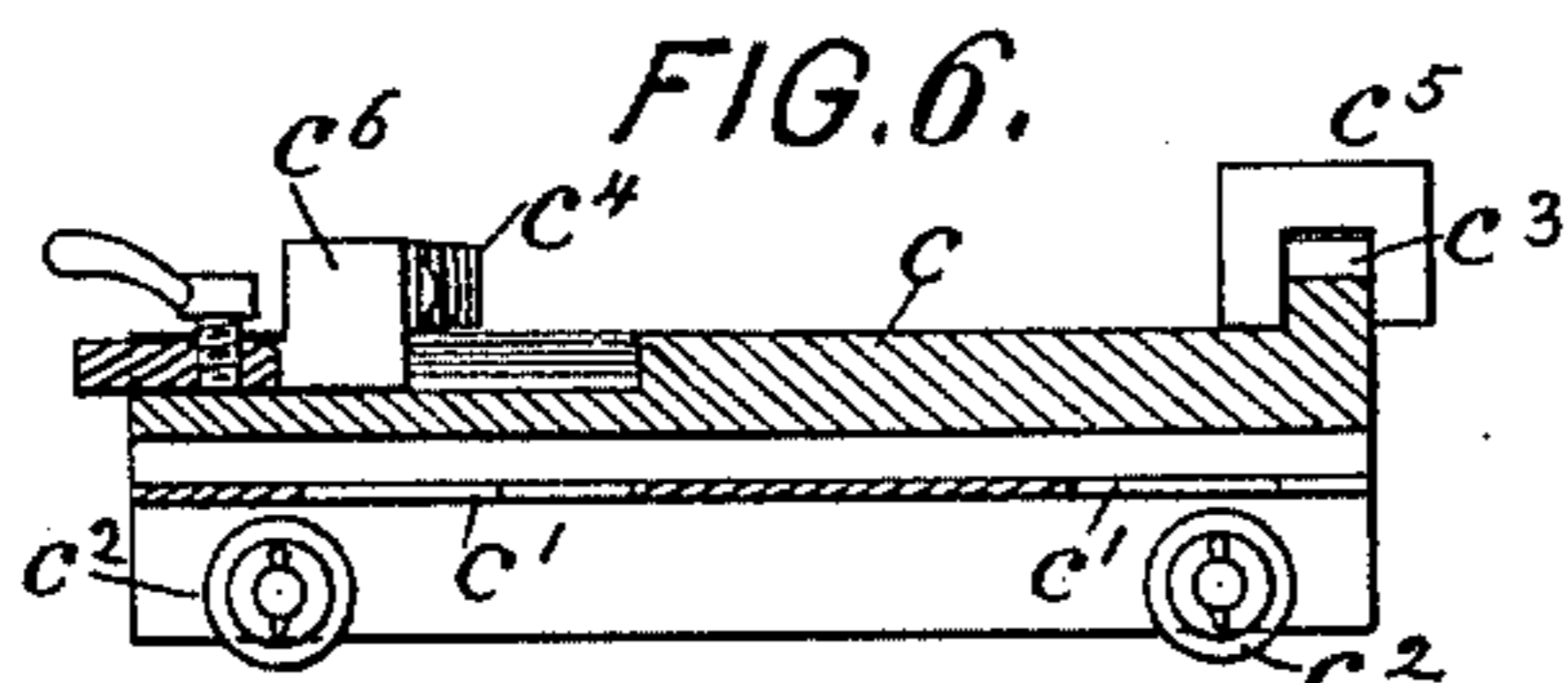
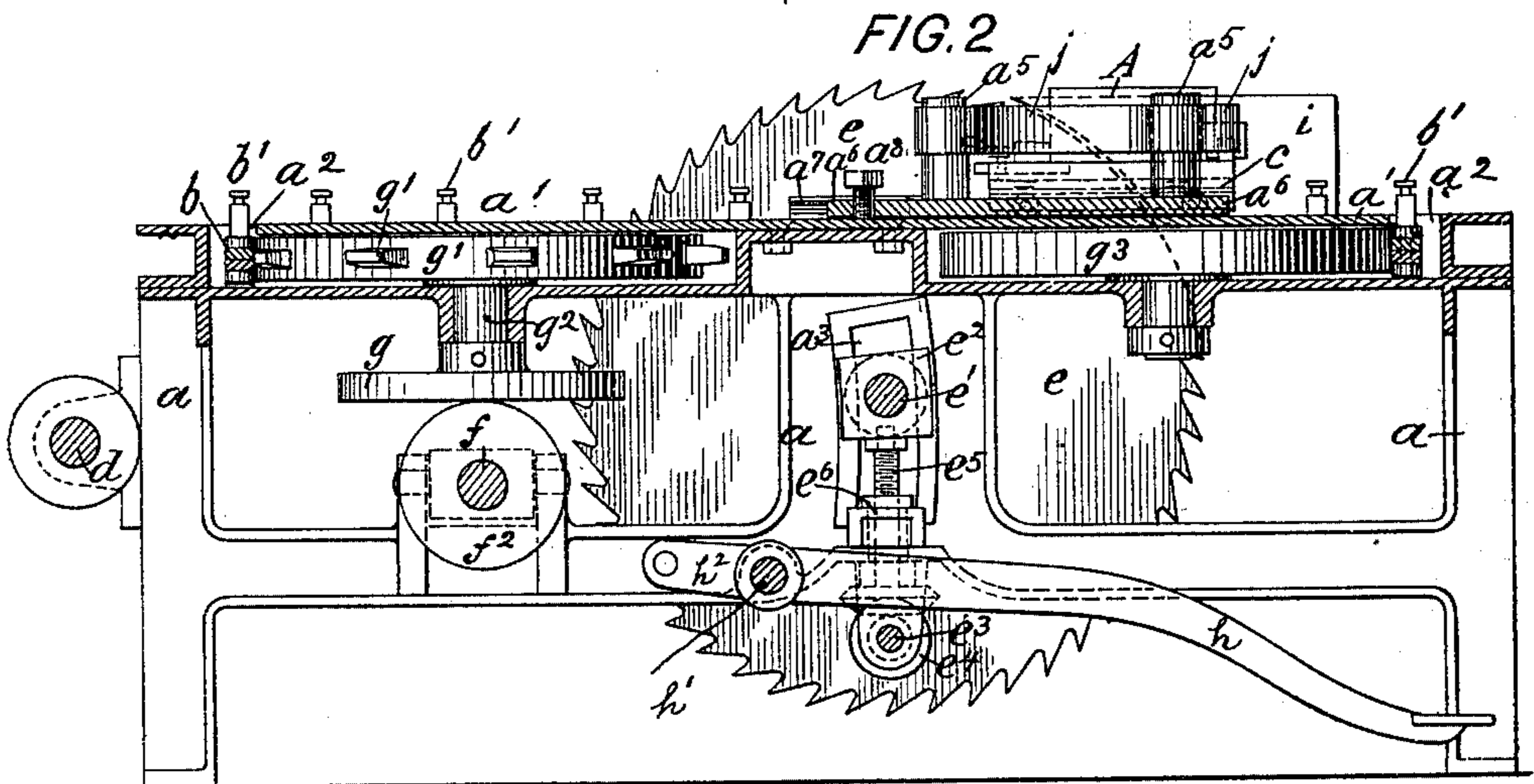
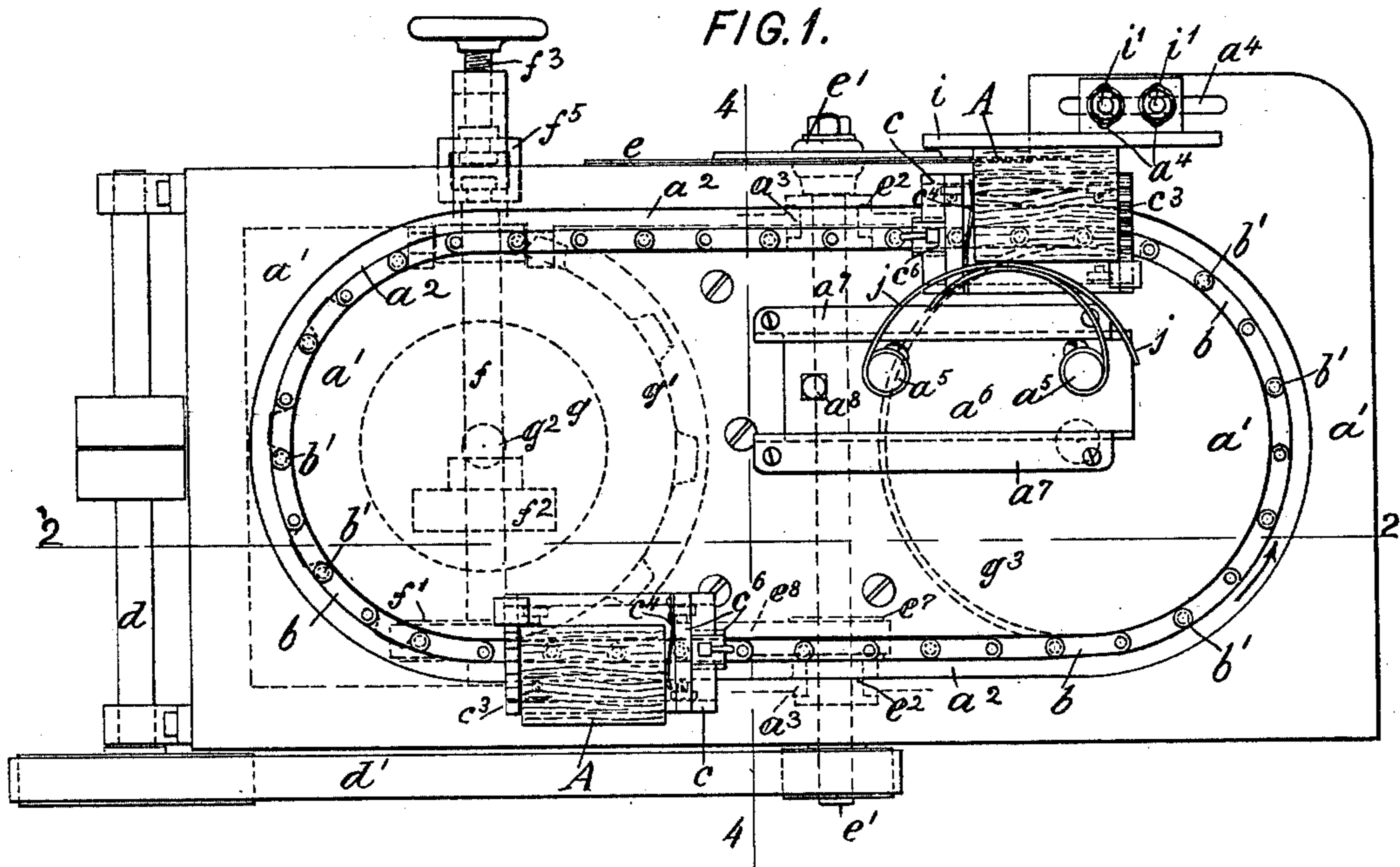
Patented June 6, 1899.

H. SCHROER.
SAWING MACHINE.

(Application filed Feb. 8, 1899.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:
John Becker.
William Schulz.

Inventor:
Henry Schroer
by his attorneys
Roder & Brierley

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2 Sheets—Sheet 2.

FIG. 3.

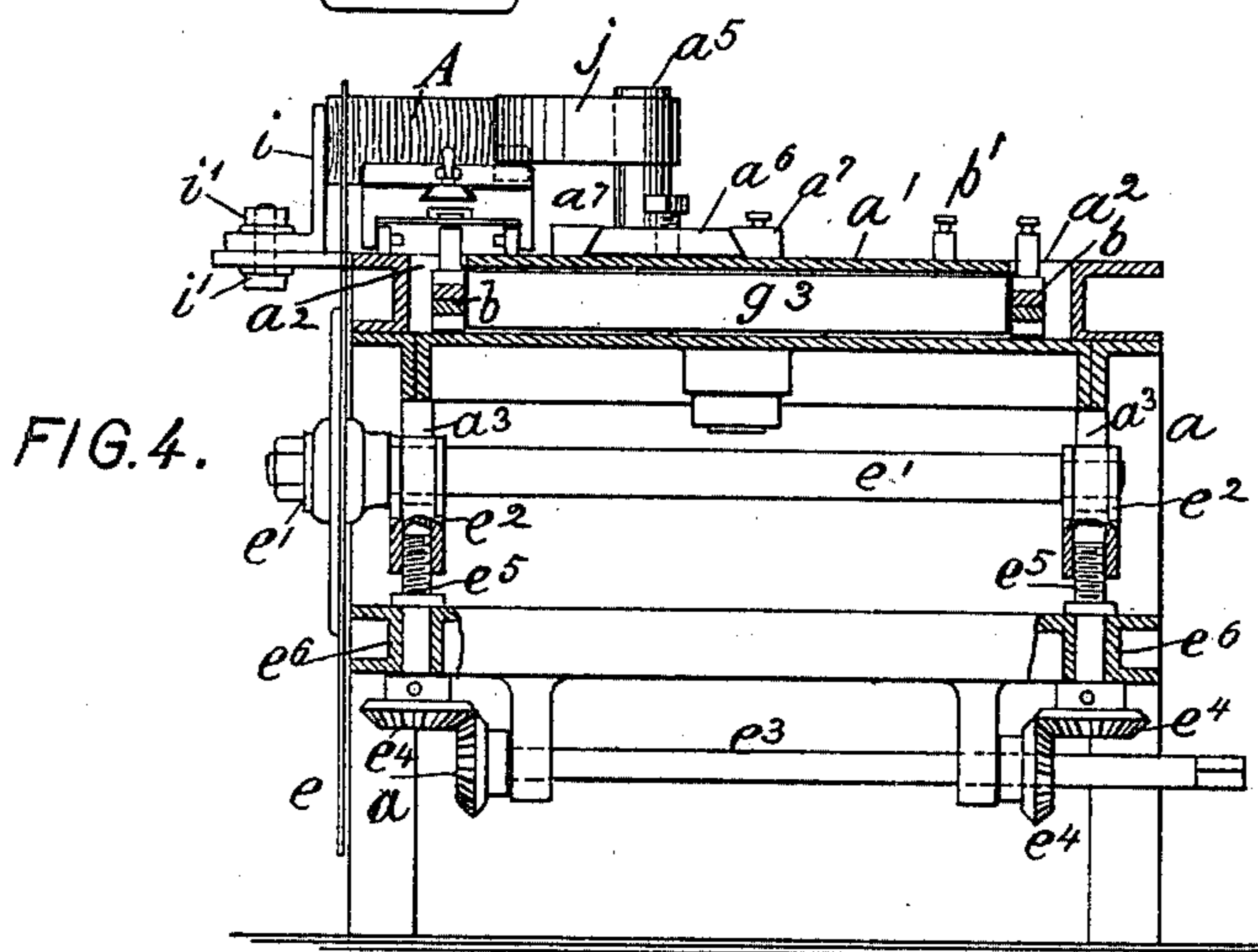
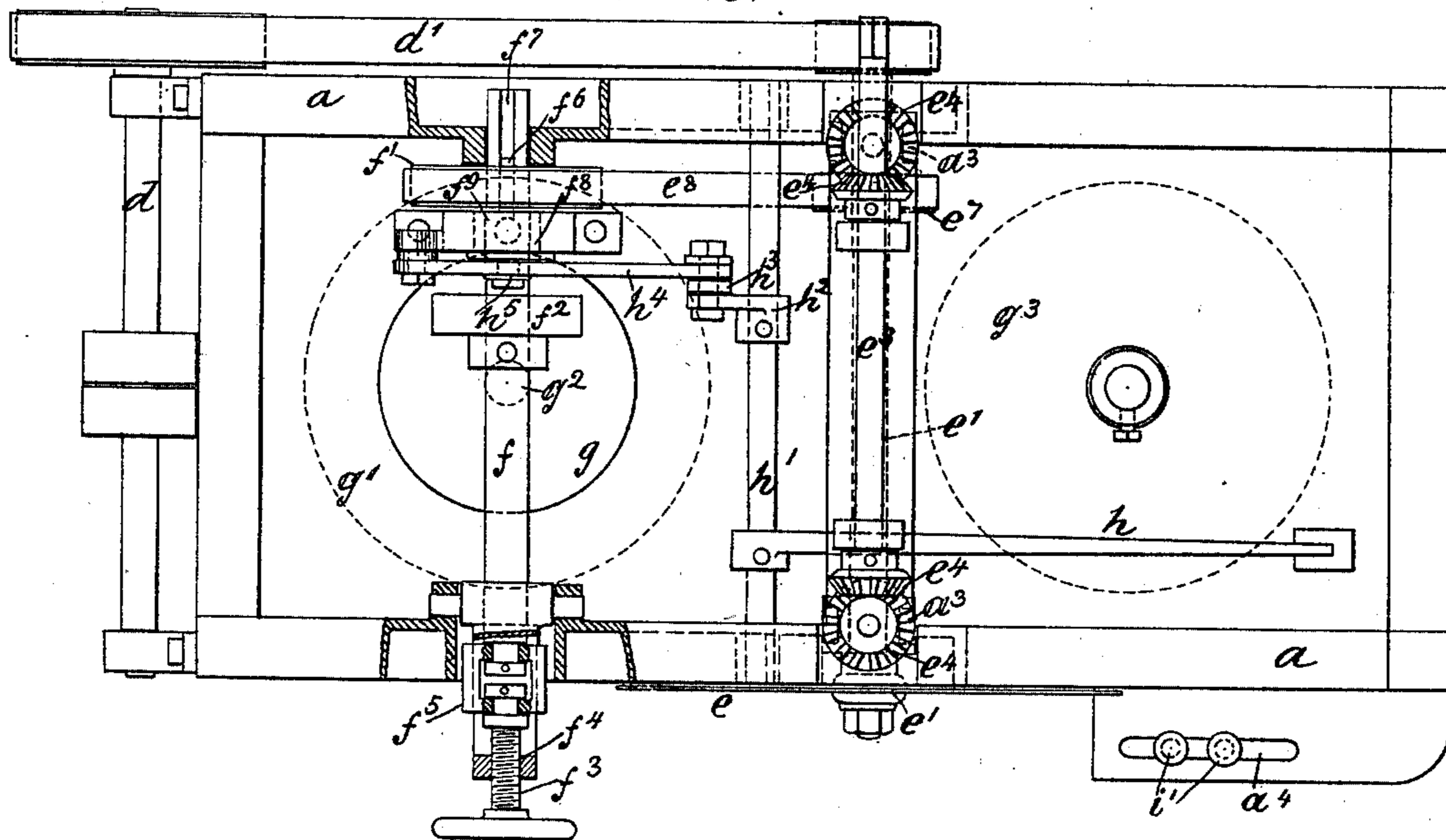
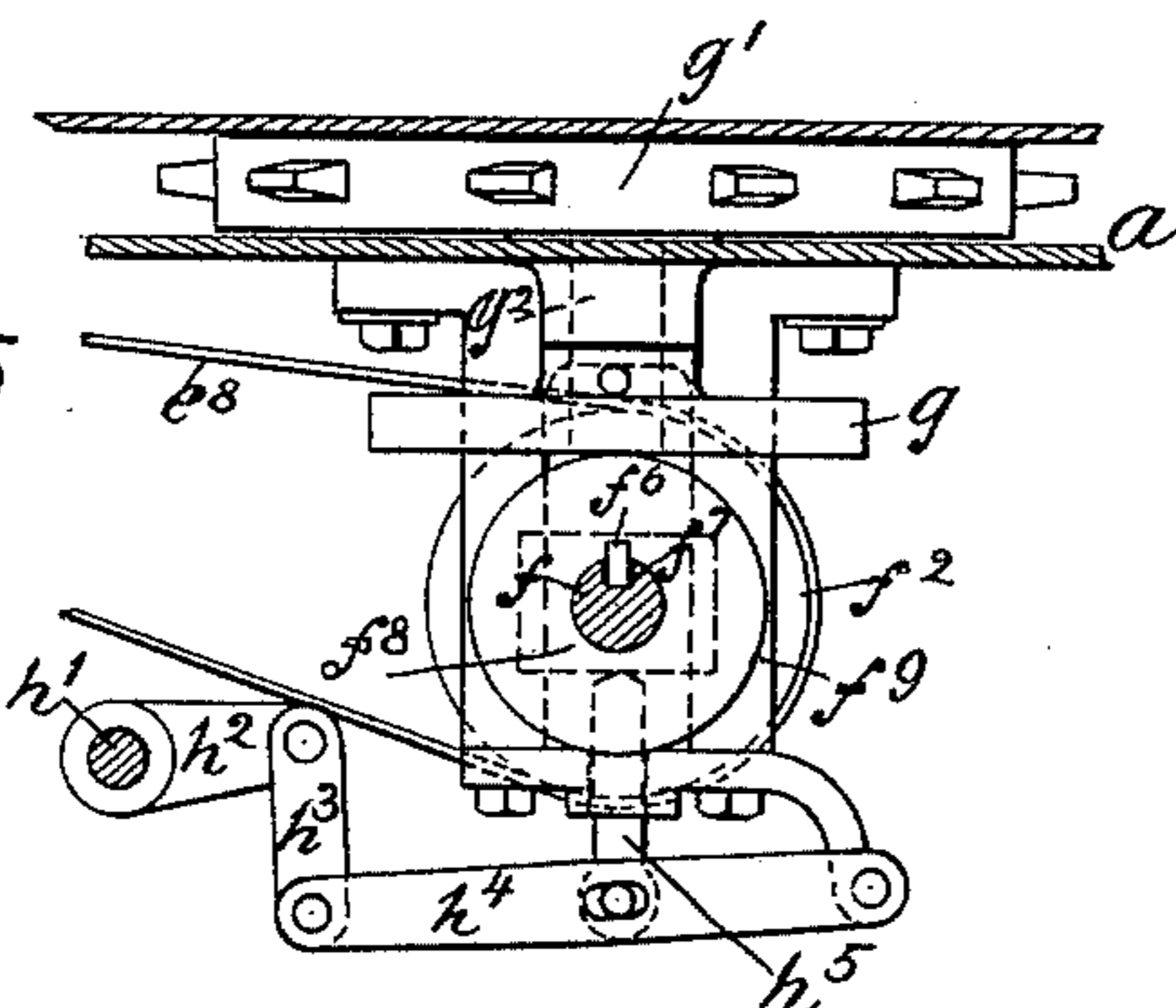


FIG. 5



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UNITED STATES PATENT OFFICE.

HENRY SCHROER, OF NEW YORK, N. Y.

SAWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 626,303, dated June 6, 1899.

Application filed February 8, 1899. Serial No. 704,894. (No model.)

To all whom it may concern:

Be it known that I, HENRY SCHROER, a citizen of the United States, and a resident of New York city, county and State of New York, have invented an Improved Sawing-Machine, of which the following is a specification.

This invention relates to a machine for sawing boards or veneers from short blocks of wood, the machine being more particularly designed for manufacturing cigar or other boxes, though it may of course be also applied to different purposes.

The machine comprises, essentially, an endless movable chain that propels one or more carriages carrying the wood to be cut up past a gage and saw. The wood is thus first gaged to the thickness of the board desired and is then fed against the saw to be cut up.

The advantage of the machine is that it works automatically, has a continuous feed, and will produce a large output.

In the accompanying drawings, Figure 1 is a plan of my improved sawing-machine; Fig. 2, a vertical longitudinal section on line 2 2, Fig. 1; Fig. 3, an inverted plan, partly in section; Fig. 4, a vertical cross-section on line 4 4, Fig. 1; Fig. 5, a detail of the friction-roller adjustment; Fig. 6, a longitudinal section of the carriage on line 6 6, Fig. 8; Fig. 7, an end view thereof, showing the dog c^5 in section; and Fig. 8, an inverted plan of the carriage.

The letter a represents the frame of the machine, provided on its bed-plate a' with a continuous race a^2 , which contains the endless driving chain or belt b . This chain is at suitable intervals provided with means for removably attaching to it any suitable number of carriages c , upon which the blocks of wood to be sawed may be supported and fed past the saw-blade. These means are shown to consist of headed pins b' , projecting upwardly from the chain and adapted to engage corresponding slots c' of the carriages c .

d is the driving-shaft, which by belt d' transmits motion to the arbor e' , carrying at one end the circular saw e , placed sidewise of the race a^2 . The arbor e' sits in bearings e^2 , which are vertically adjustable, so that the segment of the saw-blade projecting above the work-table may be set to correspond in height to the height of the block A to be cut

into boards. The bearings e^2 slide in the curved slots a^3 of frame a and may be adjusted by means of a counter-shaft e^3 , Fig. 4, which by bevel-gear e^4 turns a pair of screws e^5 , passing through sleeves e^6 and engaging the bearings. From the arbor e' motion is transmitted by pulley e^7 and belt e^8 to the pulley f' of a transverse shaft f , adapted to actuate the chain b . Upon the shaft f is mounted a vertical disk f^2 , which impinges with its rim against the lower face of a horizontal friction-disk g , and thus rotates the same by frictional contact. The shaft g^2 of disk g carries a sprocket-wheel g' , which engages the links of chain b and drives the same, the chain passing at its opposite end around an idler g^3 , as shown.

The shaft f may be moved longitudinally to set the disk f^2 nearer to or farther away from the center of disk g , and thus change the speed of the feed-motion. This longitudinal adjustment is obtained by means of a set-screw f^3 , tapped in nut f^4 and engaging a turnbuckle f^5 , which also engages one end of shaft f . Thus the shaft f can be drawn in or out to a greater or less extent, as will be readily understood. The pulley f' engages by pin f^6 a longitudinal groove f^7 of shaft f , so as to maintain a permanent engagement therewith. In order to start and stop the machine, the shaft f may also be tilted so as to hold the disk f^2 against or take it off the disk g . The tilting is effected by a treadle h , actuating a rock-shaft h' , which by crank-arm h^2 , link h^3 , and lever h^4 moves a pin h^5 , connected to the journal-box f^8 of shaft f , which is adapted to slide in the bearing f^9 . A pressure on the treadle h will swing the shaft f upward to cause an engagement of disk f^2 with disk g , and a consequent motion of belt b . If pressure is taken off the treadle, the shaft f will drop by gravity to take the disk f^2 away from disk g , and thus the feed will stop.

i is a gage-plate, by means of which the thickness of the boards or veneers to be cut may be regulated. It is mounted longitudinally and transversely adjustable upon the machine-frame by means of set-screws i' , engaging slots a^4 in the bed-plate a' . The gage is placed in front of the cutting edge of the saw, and by its lateral adjustment the distance be-

tween it and the saw may be varied to correspond to the thickness of the boards to be severed.

5 Opposite to the gage i there is mounted on the machine within the race a^2 a presser for crowding the work carried by the carriages c laterally against the gage. This presser is shown to consist of two overlapping curved leaf-springs j , mounted on posts a^5 , that project upwardly from a slide a^6 , movable between rails a^7 of bed-plate a' and adapted to be secured in position by a set-screw a^8 . Thus the presser, as well as the gage, may be set for shorter or longer work.

15 The carriages c travel on wheels c^2 and are adapted to support the blocks A to be cut up. Along one edge each carriage is provided with a rim c^3 , which may be toothed to constitute a rack and against which the block A is held longitudinally by a spring c , secured to an adjustable slide c^6 . The rack, if used, is engaged by a dog c^5 , which on passing the springs j is forced along the rack to gradually feed the block A outward. If the rack and dog are dispensed with, the block is fed outward—i. e., against the gage by direct contact with the presser j .

25 The operation of the machine is as follows: The blocks A are placed upon the carriages and the treadle h is depressed to impart motion to the endless belt b by friction-disks f^2

g in the manner described. Thus the carriages will be driven continuously along the race a^2 , and as they pass between the presser and gage the blocks A will be shifted side- 35 wise against the latter. The board will now be severed by the saw, and as the carriage continues its travel and again arrives opposite the gage the block A will be again shifted laterally by means of the presser to compensate for the thickness of the board removed. 40 In this way board after board will be rapidly sawed off. If one of the work-pieces A is used up, the machine is stopped and the carriage is recharged. It will thus be seen that by 45 my machine the boards or veneers are cut in a rapid and automatic manner and that the output of the machine will be large and may be regulated by coupling more or less carriages to the chain. 50

What I claim is—

In a sawing-machine, the combination of an endless movable chain with a carriage adapted to be operated thereby, means on the carriage that hold the work, but permit its lateral displacement, a gage, a coacting presser, 55 and a circular saw that attacks the gaged work, substantially as specified.

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Witnesses:

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